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ABSTRACT

Postsecondary education in the United States is in a state of financial crisis. The two reasons for this are: (1) the college age population increased at a rate of 4.2 percent per year during the 1960's; and (2) during the 1960's the locus of growth in the number of years of formal education completed by the young shifted from secondary to postsecondary levels. During the 1960's, the average number of staff members per student declined at a rate of minus 1.5 percent per year, and dollar expenditure per staff member increased by only 1.0 percent per year, as opposed to a 3.3 percent increase for the average U.S. family. Because a college education can help the individual achieve a higher lifetime income, it cannot be restricted to anyone for arbitrary reasons. More important, a college education gives a person an opportunity to enhance his skills and abilities, and it is society that ultimately benefits. Society should therefore finance the future growth in postsecondary education by creating two new programs of educational aid. One should be a general per student-year grant sufficient to provide a basic minimum level of resources to any non-profit organization that provides educational services of a nonexclusive nature. The second program would permit students to finance as much of their expenses as they wish through a government postsecondary education tax foundation. (AF)

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ON THE GROWTH AND FINANCING OF POST-SECONDARY EDUCATION: WHO PAYS, STUDENT OR TAXPAYER?

by

James C. Byrnes

Post-secondary education in the United States is in a severe state of financial difficulty. Despite unprecedented federal and state programs of financial assistance during the 1960's, the average number of staff members per student declined at a rate of minus 1.5 percent per year from 1960 to 1970. By 1970 that average was 86 percent of what it was at the beginning of the decade. During the same period, constant dollar expenditures per staff member increased only by 1.0 percent per year while average incomes received by all families in the United States increased 3.3 percent per year in real terms. During this same period the number of student-years of instruction produced increased by 8.3 percent per year. Educational activity more than doubled. In order to maintain staff-student ratios without change during the 1960's and enjoy the same rate of growth in resource use per staff member as that enjoyed by the rest of us in both our homes and our jobs, would have required 45 percent more in total current resources than institutions of higher education actually used during the 1960's. This constitutes a state of financial crisis.

There are two reasons why this occurred. One is that the college age population increased at a rate of 4.2 percent per year during the 1960's. That population did not increase at all during the 1950's. The second reason is that the secondary school system began to mature--as suggested by the film you have just seen. During the 1960's, the locus of growth in the number of years of formal education completed by the young shifted from secondary levels to post-secondary levels. We opened post-secondary education to the less affluent on a scale unlike anything we had done before. This was necessary if growth in educational attainment was to

continue. However, by facilitating this shift in where growth in schooling takes place, we also created a new, but temporary, source of student demand. Post-secondary education in general began to serve groups in our population never before served through student aid and by the creation of new low-tuition government-operated institutions. This brought an even greater number of students to post-secondary education during the 1960's than population growth and the rise in per capita income alone can account for.

These factors led to the financial difficulty post-secondary education faces today and will continue to create problems for another ten years. The college-age population will continue to increase by 2.3 percent per year until 1975, and by 1.5 percent per year between 1975 and 1980. Continued growth in real income will bring with it continued growth in the average number of student-years of instruction sought per person of college age. The opening of post-secondary instruction for lower income groups will continue to add to the demand for enrollment over and above what growth in real income will produce. Growth in real income will continue to raise the unit cost of instructional resources. Growth in national income, however, is unlikely to exceed its long-run historical rate. Thus, without an increase in the historical priority we have placed on educational uses for new national resources, the financial crisis in post-secondary education will last another ten years. But, take heart, there is an end in sight. I will explain.

If you got the message of the film, you will perceive that there are limits to how much time people will spend in formal education. Even if there were a completely open post-secondary system in the United States today, free of all cost to students at all levels of post-secondary study, only a little more than one-half of last year's first graders would be expected to spend as many as 4 years at post-secondary levels by the time they reach age 35. Let me translate that kind of statement into something more useful for the problem at hand.

Even if the system were made completely free to students and programs broadened to accept all applicants regardless of their prior preparation, we would not expect enrollment to more than double between 1970 and 1980. The reason for this is simply that people have other things to do besides going to school.

However, the reason that many individuals are likely to seek entry to post-secondary education--as suggested by the film--is that they see further education as the most desirable of all the alternatives available to them. Generally speaking, they are quite correct in this view. The increased real income and wealth of our society comes from increased productivity in the conduct of both social and economic affairs. Increased productivity involves an increasing division of labor between learning and doing. Opportunities for experiential learning are diminishing as rapidly for the college-age individual today as was the case 50 years ago for youth of high school age. The more experienced individual, who is not primarily an educator, finds that he can afford less and less time to assist the uninitiated if he is to maintain the standards of productivity others expect. I believe that this is one reason why we began to create a system of public secondary schools at the turn of the century. I believe that this is also one reason why we are now creating new publicly supported opportunities for post-secondary education.

Now, I want to make it absolutely clear that we can afford to double the number of student-years of enrollment by 1980 if we wish to do so. That would imply an annual average rate of growth in student-years accomodated of 7.7 percent per year. We may hold the average staff-student ratio constant at its 1970 level. We may increase average expenditures per staff (including current capital cost) by 3.5 percent per year. This yields a growth rate for total resources required of 11.5 percent per year between 1970 and 1980. If national income continues to grow at its historical rate of about 3.7 percent per year in real terms, then we can afford a 10.4 percent per year growth in expenditures for post-secondary education with no change in the historical priority we have placed on educational

uses of increments to our income for more than 50 years. We can afford an 11.5 percent per year growth in resources for post-secondary education with a lower rate of growth in total educational expenditures than that prevailing for the past 20 years.

If one makes the same kind of assumptions for growth in the elementary and secondary system--that pre-school activities will increase; that the proportion of the young completing high school will continue to rise; that the average staff-student ratio will actually increase by 0.6 percent per year in order to avoid reducing the absolute number of staff as the school population declines; and that expenditures per staff member will increase at a rate of 3.5 percent per year--then requirements for growth in total resources will be 3.9 percent per year.

If one simply recognizes that 1970 expenditures for the elementary and secondary system were 4 times the amount spent for all higher education, then one can discover that a growth rate of 11.5 percent per year for expenditures on higher education and a growth rate of 3.9 percent per year for the lower grades implies a 5.9 percent per year growth rate for both. The growth rate for both has been roughly 5.5 percent for 50 years and substantially higher than that for the past 20 years.

If we address this problem and solve it reasonably well in the next decade, then following 1981 requirements for growth in resources for post-secondary education will be greatly diminished. Not only will the college age population decline continously for another 10 years following 1981, but lower income groups will have access to post-secondary education. Further growth in educational attainment will thereafter be constrained by the growth in real income per capita. And growth requirements for post-secondary education will subside to something on the order of 5.6 percent per year even with the most generous assumptions.

This brings us to the title question: "Who pays, the student or the taxpayer?" My answer is that the taxpayer pays. But remember: the student is a future taxpayer.

We are fond of pointing to the higher average lifetime earnings of college graduates and asking: If education pays the individual so well, why not let the individual pay the full cost? We forget that the successful student has already paid dearly in three ways. He must perform prodigious amounts of work. He must five up other activities which also might lead to a desirable future. And, he must assume a very severe risk that what we and our educational institutions require him to do will, in fact, prove personally valuable to him in the future. More than 60 percent of the range of incomes received in 1969 by 40 year old male college graduates was indistinguishable from the range of incomes received by their cohorts who only completed high school. To assume that the higher incomes which are visable have been caused by schooling, it would be necessary to deny that either the student or his non-school advantages had anything to do with the process. The only way our post-secondary institutions can be said to have caused one person to have a higher lifetime income than another is by restricting access to instruction in arbitrary ways.

If the educational system does no more than increase one person's income over another's, that system is clearly discriminatory and inequitable. The purpose of post-secondary education is much more than that. It quite literally pays each of us to give others a means to enhance their skills and abilities, as long as those skills and abilities are not exclusive; that is, as long as anyone who wishes to acquire a particular skill or insight has a chance to do so. There is no reason why a student should pay the full cost of his education unless it gives him some exclusive advantage over his contemporaries.

During the past 30 years the proportion of the young completing high school has risen from 50 percent to more than 80 percent. The proportion of the college-aged finishing 4 years of college has risen from about 9 percent to nearly 25 percent. During that same period, the distribution of income received by individuals has changed very little. What has changed, however, is that the average income received by all has increased more than two-and-one half times, in real terms. It is

society who pays for the educational process because it is society which benefits. There may be good and sufficient reasons for charging students tuition and fees, but those reasons have little to do with causing students to have high incomes.

The manner in which we choose to finance future growth in post-secondary education is of deep and lasting importance. If this is done by creating low-tuition institutions under highly centralized governmental administration, student choice with respect to where and how he pursues his education is minimized. I believe that one of the most critical ratios to be set through public policy is the ratio of instutional revenues from students, through tuition, to non-tuition revenue. That ratio now stands at roughly two to one in favor of non-tuition revenue to institutions. As the institutional side of that ratio increases, student choice with respect to where and how he gets an education is diminished. On the other hand, if the student financed the total cost of his post-secondary education, the public nature of our educational institutions would be greatly diminished. Institutions would have little choice but to do whatever students asked. Institutions could no longer be expected to respond to what the rest of us might perceive as desirable for students.

Thus my recommendation is to create two new programs of educational aid. One should be a general per student-year grant sufficient to provide a basic minimum level of resources to any non-profit organization which provides educational services of a non-exclusive nature and which meets certain tests of public accountability. It would not be difficult to construct a short list of workable tests.

The second new program would permit students to finance as much of their expenses as they wish through a government post-secondary education tax foundation. Students would agree to pay the foundation a small additional income tax depending upon how much they received for their educational expenses. At any time the accumulated tax a student returned was sufficient to cover the amount advanced plus interest, the

student's obligation would end. Students could also pre-pay their full obligation whenever they wished. These provisions would be necessary because the student could always buy out of such a tax by simply paying tuition out of his current resources. However, the tax rates would be set at such a level that no more than one-quarter to one-half of the total amount advanced would ever be recovered. That loss would constitute a new form of student aid and would be financed out of general tax revenue paid by us all. Student aid in this form would be distributed in an ideal way--according to the level of the student's future income.

In this way students could finance institutional costs over and above that covered by basic institutional grants. These differential costs would arise from the higher cost of more unusual or more advanced instruction. But the student would play a stronger role in deciding how much of that higher-cost instruction he should undertake.

TABLE A

Average Rates Of Growth In Percent Per Year

All Institutions of Higher Education

		(1) 1950's	(2) 1960's	(3) 1970's (Maximum Growth)	(4) 1980's
A.	Number of persons age 18-24	0.0	4.2	1.9	-1.5
B.	Average student-years completed per person of college age	1.6	3.9	5.7	2.0
C.	Number of student-year (A times B)*	1.6	8.3	7.7	0.5
D.	Average No. staff units used per student year	2.7	-1.5	0.0	1.5
E.	Average constant $ expenditure per staff unit (including salary, material, and current captial consumption)	2.1	1.0	3.5	3.5
F.	Total constant $ current resources used (C times D Times E)*	6.5	7.7	11.5	5.6

*Rates shown are multiplicative when first converted to ratios:

$$\text{Ratio} = 1 + \frac{r}{100}$$

TABLE B

Average Rates of Growth in Percent Per Year

All Elementary and Secondary Institutions

	(1) 1950's	(2) 1960's	(3) 1970's	(4) 1980's
A. Number of persons age 5-17	3.6	1.9	-0.8	1.2
B. Average student-years completed per person of school age	0.3	0.7	0.6	0.4
C. Number of student-year (A times B)*	3.9	2.6	-0.2	1.6
D. Average No. staff units used per student year	0.3	0.3	0.6	0.0
E. Average constant $ expenditure per staff unit (including salary, material, and current captial consumption)	3.5	3.4	3.5	3.5
F. Total constant $ current resources used (C times D times E)*	7.8	6.4	3.9	5.2

*Rates shown are multiplicative when first converted to ratios:

$$\text{Ratio} = 1 + \frac{r}{100}$$

TABLE C

Average Rates of Growth in Total Resource Use
All Educational Institutions
(In Percent Per Year)
(Constant 1968-69 Dollars)

	1950 Expenditure Weights *	1950's	1960's	1970's	1980's
Higher Education	.2	6.5	7.7	11.5	5.6
Elementary & Secondary	.8	7.8	6.4	3.9	5.2
All Formal Education	1.0	7.6	6.7	5.9	5.3

*Technical Note: The expenditure weights apply to the underlying growth ratios consistent with the average rates shown.

N.B. The annual average rate of growth in total educational expenditures has been approximately 5.5 percent per year in constant dollars since 1920

Total Money Income in 1969
Males Age 35-44